CHAPTER 1
PURPOSE AND NEED FOR THE ACTION

1.1 INTRODUCTION

The Wister Lake project was authorized by the Flood Control Act of 1938 and completed in 1949. The project consists of the lake, dam, and downstream stations on the lower Poteau River to its confluence with the Arkansas River. It provides substantial flood control and a municipal and industrial water supply, with additional uses for flow augmentation, water conservation, and sediment reduction. Wister Lake and its adjacent lands are also used for recreation and wildlife management. The lake, dam, and downstream Poteau River are located in southeastern Oklahoma in Le Flore County (Figure 1.1-1). As originally authorized with a conservation pool elevation of 471.6 feet National Geodetic Vertical Datum (NGVD), the lake contained 27,000 acre-feet of water storage within 4,000 surface acres (USACE 1973). Since 1974, the lake's conservation pool has been raised four times, either seasonally or permanently, principally to increase water supply and enhance recreation. The Water Resources Development Act of 1996 (WRDA 1996) instructed the United States Army Corps of Engineers (USACE) to permanently raise the conservation pool to its present elevation, 478.0 feet (NGVD).

Under the National Environmental Policy Act (NEPA) of 1969, environmental documentation addressing the operation and maintenance of the Wister Lake project was prepared and filed on November 19, 1973 (USACE 1973). NEPA was enacted to establish a national policy for the protection of the environment. It requires federal agencies to review their program or activity to determine what effect it has on the environment. The results of that review are published in an environmental document, either an Environmental Impact Statement or Environmental Assessment. The *Wister Lake Final Environmental Statement* (FES), an environmental impact statement, addressed the operation of the lake at a conservation pool level of 471.6 feet. No additional environmental documentation to assess the environmental effects of pool level increases has been produced. Although the pool raises were required by Congress, budgetary constraints impeded the associated environmental impact analysis.

This document, as a supplement to the 1973 Final Environmental Statement (FES), analyzes the impacts and presents recommendations for mitigating the effects of operating the system at the current pool level of 478.0 feet and the historical effects of raising the conservation pool level from 471.6 to 478.0 feet. The effects of this action are examined on environmental, social, cultural, and economic resources of the study area. Resources that will be evaluated include hydrology, geology and soils, water quality, air quality, biological resources, land use, socioeconomics, recreation, transportation, and cultural resources. In addition, environmental justice and protection of children will be evaluated.

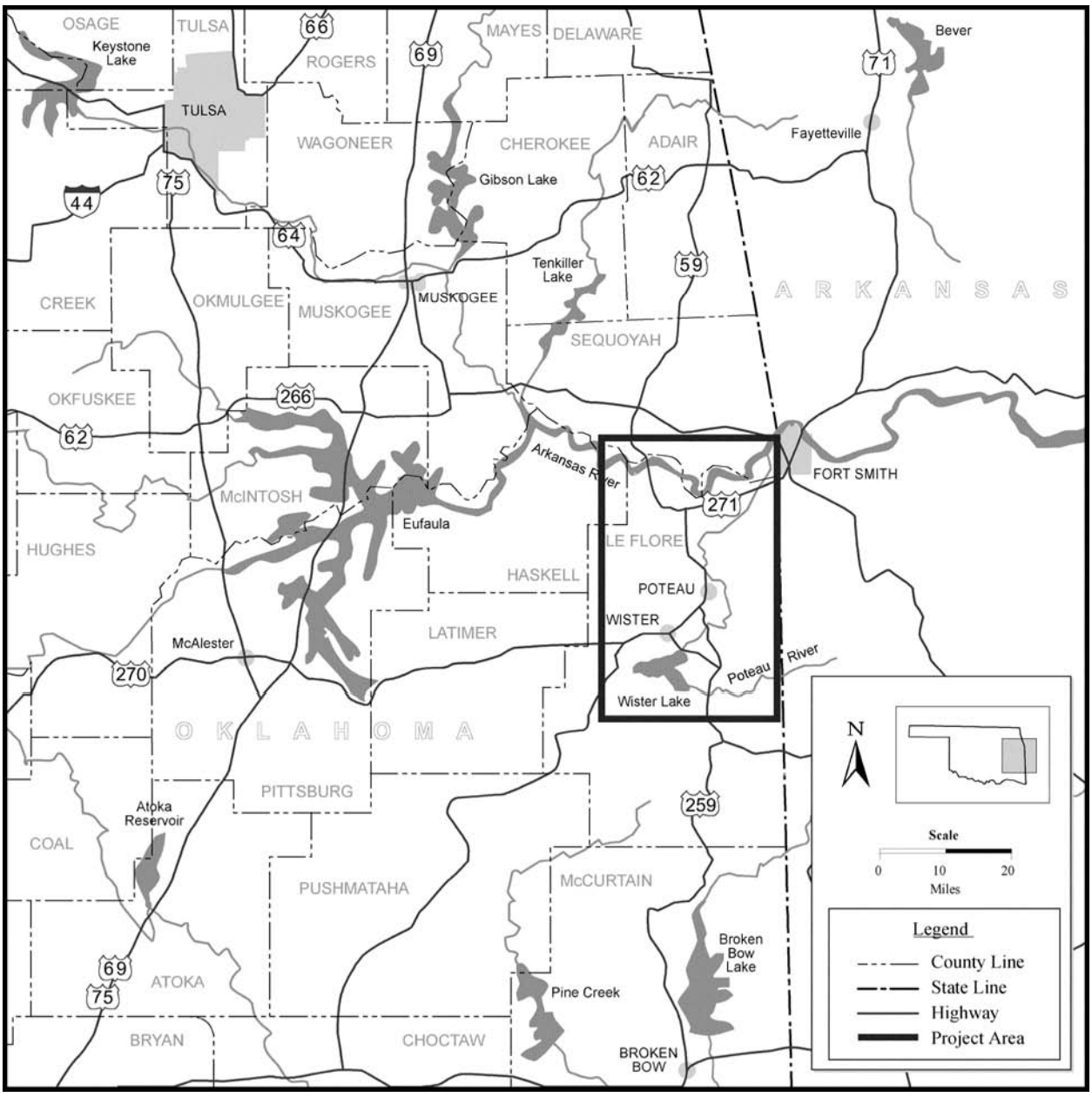

Figure 1.1-1 Regional Location of Project Area

NEPA regulations (Section 1502.14(d)) also require that the alternatives analysis include the no-action alternative. In this case, the no action alternative examines the effects of operating the Wister Lake project with a conservation pool at 478.0 feet but does not contain measures to mitigate past or present impacts to resources.

Environmental analyses addressing the management of the reservoir with a conservation pool at 471.6 are covered under the Final Environmental Statement, Operation and Maintenance Program, Wister Lake,

Poteau River, Oklahoma (USACE 1973). This supplemental FES will examine effects from raising the conservation pool to its present level, as well as on-going environmental effects from the operation of the Wister Lake project. This supplemental FES, when combined with the original environmental statement, will assess all environmental effects from the creation of Wister Lake to the present-day operations of the Wister Lake project .

1.2 LOCATION AND DESCRIPTION OF THE AFFECTED AREA

The affected environment for this study consists of Wister Lake and surrounding areas within an elevation of 511.0 feet and the area within the 100-year floodplain along the Poteau River from Wister Dam to its confluence with the Arkansas River near Fort Smith, Arkansas. Flooding and water storage at the lake and the downstream area are directly affected by storage at Wister Lake and the release of water at the dam into the lower Poteau River.

The Poteau River originates in western Arkansas, flows west into Oklahoma, and then turns north to empty into the Arkansas River near Fort Smith. The river basin is roughly triangular, containing approximately 1,888 square miles, 933 square miles of which drain into Wister Dam. The basin topography is rough, varying from low, rounded hills in the north and northeast to high, mountainous ridges in the central and southern portions of the watershed.

Wister Lake (Figure 1.2-1) has 7,386 acres of surface area, with an average depth of 7.5 feet, and 100 miles of shoreline (USACE 1993). The lake is formed by damming the Poteau River below its convergence with the Fourche Maline Creek, approximately 2 miles south of Wister, 7 miles northwest of Heavener, and 47 miles southwest of Fort Smith, Arkansas. Structures include a 5,700-foot-long earthfill embankment and a 2,400-foot-long earth dike. A 600-foot concrete chute spillway is located between the dike and the embankment. There are six vertical lift gates to regulate flood control releases through the outlet works. Total length of the dam, including spillway and dike, is 8,700 feet.

Operations, maintenance, and management activities (USACE 1979) of the Wister Lake project include the following:

- *Flood Control, Water Supply, and Reservoir Regulation*. Wister Lake provides flood protection for the valley below the dam and added protection along the Arkansas River. The maximum discharge that can occur through the outlet works currently without causing downstream flooding is 7,200 cubic feet per second (cfs). Since 1949, flood control along the Wister Lake system has prevented over $117 million in damage. The lake also supplies water to the surrounding communities, with a dependable yield of 20 million gallons per day and storage of 14,000 acre-feet.

- *Maintenance of Project with Related Structures and Facilities.* Structures and facilities are maintained in accordance with the *Maintenance Manual, Wister Dam and Reservoir* (USACE 1956). These structures and facilities include the earthen dam, spillway, control works, buildings and grounds, water supply, sewage, electrical system, communications equipment, and vehicles.

- *Land Resource Management.* Lands around the lake have been subdivided into several types—project operations, recreation (high and low density), natural area, wildlife management, reserve forest land, intensive forest management, and fish and wildlife lands. The Oklahoma Department of Wildlife Conservation has license to 33,428 acres for wildlife management and the state of Oklahoma leases 3,000 acres for a state park. Lands may be used for agriculture only on an interim basis, if such use does not deter from operational use, recreation use, or wildlife habitat.

- *Recreation Management.* The recreation management program is focused on the zoning of project lands and water management to provide both fish and wildlife benefits and the operation and maintenance of recreation areas and facilities. It is estimated that the park has more than 375,000 visitors each year.

1.3 BACKGROUND AND PREVIOUS ENVIRONMENTAL DOCUMENTATION

Table 1.2-1 lists the relevant federal laws establishing the reservoir and the conservation pool levels as well as related operations actions. As constructed in 1949, the permanent conservation pool for Wister Lake was 471.6 feet. The original study examining the environmental effects of operating and maintaining the Wister Lake project with the conservation pool at 471.6 feet was published in 1973 (USACE 1973). This environmental statement identified adverse environmental effects from the management of the facility for flood control, resources (forest and wildlife), and recreation. These effects included the following: 1) soil erosion or compaction due to recreational use, traffic in unauthorized areas, and wave action and pool fluctuation on the shoreline; 2) damage or loss of vegetation due to pool fluctuation, mowing, or construction; and 3) alterations to the natural environment from development and construction. The adverse effects were mitigated by planting water tolerant trees and establishing erosion-retarding groundcover along the shoreline, placing rock revetments along the banks of the river immediately below the dam, and zoning of recreation areas to reduce traffic in sensitive areas.

Other adverse effects that could not be completely mitigated included the requirement of a longer time period for the downstream flow to return to normal water levels, (increasing chances of overages in the spillway and downstream flooding), and adverse and irreversible effects on archaeological sites from fluctuating water levels. Alternatives to the management of the Wister Lake project, such as ceasing

flood control or not maintaining recreation facilities, were judged either to be unfeasible or to lead to greater environmental effects than current operations. Therefore these alternatives were not analyzed (USACE 1976).

Table 1.2-1. Laws and Conservation Pool Height for Wister Lake

Year	*Action*	*Conservation Pool Elevation*
1938	Flood Control Act passed (Public Law 761); approved construction of dam on Poteau River	
1946-1949	Construction of Wister Lake Dam	471.6 feet (permanent)
1973	Operation and maintenance of Wister Lake project	471.6 feet (permanent)
1974	Operational plan implemented to raise Wister Lake's seasonal pool to 478.0 feet	471.6 feet (permanent) 478.0 feet (seasonal)
1976	Conservation pool level rise to 478.0 from June to December	471.6 feet (permanent) 478.0 feet (seasonal)
1983	Public Law 98-63 directed raising the permanent conservation pool to 474.6 feet and seasonal level to 478.0 feet	474.6 feet (permanent) 478.0 feet (seasonal)
1987	Continue operation of the seasonal pool	474.6 feet (permanent) 478.0 feet (seasonal)
1994	Raise conservation pool from January to May	475.5 feet (permanent) 478.0 feet (seasonal)
1996	Water Resources Development Act (Section 339) permanently raised conservation pool level to 478.0 feet	478.0 feet (permanent)
1997	Notice of Intent to produce supplement to the FES published in Federal Register; public scoping meeting held	478.0 feet (permanent)
2001	Environmental analysis of Wister Lake project resumed	478.0 feet (permanent)

In 1983, *Public Law 98-63* directed the Chief of Engineers to make permanent changes to the conservation pool level at Wister Lake: "Funds for the Wister Lake project, Oklahoma, authorized pursuant to the Flood Control Act of 1938 shall be used to reduce sedimentation impacts by raising the level of the conservation pool permanently by 3 feet and seasonally by an additional 3.4 feet…."

In 1996 the USACE was instructed to raise the conservation pool to 478.0 feet. In the Water Resources Development Act (1996), Section 339 states…

> The Secretary (of the Army) shall maintain a minimum conservation pool level of 478 feet at the Wister Lake project in Le Flore County, Oklahoma, authorized by section 4 of the Act entitled 'An Act authorizing the construction of certain public works on rivers and harbors for flood control, and for other purposes' approved June 28, 1938 (52 Stat. 1218). Notwithstanding title I of the Water Resources Development Act of 1986 (33 U.S.C. 2211 et seq.) or any other provision of law, any increase in water supply yield that results from the pool level of 478 feet shall be treated as unallocated water supply until such time as a user enters into a contract for the supply under such applicable laws concerning cost-sharing as are in effect on the date of the contract.

As a result of the directive, USACE conducted a public meeting to solicit concerns about the establishment of the conservation pool at 478.0 feet and began the NEPA process described in this document. Before additional NEPA procedures were completed, the conservation pool was raised to 478.0 feet, as mandated by Congress. Environmental impact analyses were resumed in May 2001.

1.4 PURPOSE AND NEED FOR THE ACTION

The proposed action is to operate and maintain the Wister Lake project at the congressionally mandated conservation pool level of 478.0 feet, to analyze the effects of raising the conservation pool from 471.6 feet to 478.0 feet, and provide mitigation measures for losses to resources affected by the project. The purpose and need for the action are to comply with WRDA 1996. Since 1973, the authorized conservation pool levels at Wister Lake have been changed by federal law, modifying the amount of storage in the lake allocated for flood control, water supply, and other purposes. The 1973 FES evaluated impacts to the environment from operations with a conservation pool level at 471.6 feet. However, impacts to resources in the surrounding area have not been analyzed since the early 1970s. In order to comply with NEPA, this Supplement to the 1973 FES focuses on the impacts associated with maintaining the permanent pool level at 478.0 feet, as directed by WRDA 1996, and continuing current management practices. It also examines the historical impacts associated with raising the permanent conservation pool from its original level of 471.6 to 478.0 feet. The no-action alternative also examines the operation and maintenance of the conservation pool at 478.0 feet as the pool level is congressionally mandated. However, with the no-action alternative, mitigation would not be undertaken for resource losses from past and present operation of the Wister Lake project.

1.5 PUBLIC INVOLVEMENT AND ISSUES

The scoping phase of the environmental analysis process provides opportunities for government agencies, interest groups, and the general public to learn about the proposed action and alternatives. The scoping process also helps USACE identify alternative approaches for meeting the proposal's need and provides an avenue for public input into the resource analysis performed in the draft Supplemental FES.

Official notification of the scoping period began with the publication of the Notice of Intent (NOI) on March 17, 1997, in the *Federal Register* (see Appendix A). Twenty letters from the Intergovernmental and Interagency Coordination of Environmental Planning (IICEP) were sent outlining the USACE proposal and announcing a scoping workshop. Recipients of the IICEP correspondence included federal, state, and local agencies; local elected officials, and interested citizens and groups. The public workshop on the project was conducted on September 30, 1997.

In response to the NOI and IICEP notification, two letters were received, one each from the U.S. Fish and Wildlife Service (USFWS) and the Oklahoma Archeological Society (OAS). The USFWS would like the following issues addressed:

1. Mitigation for adverse impacts to terrestrial wildlife habitat caused by the 1974 and 1983 rises in Wister Lake pool levels.

2. Implementation of a lake-level management plan to benefit both terrestrial and aquatic habitat values on the Wister Wildlife Management Area.

The OAS noted three concerns:

1. There are a number of declared National Register-eligible sites at the lake that would be adversely affected from erosion by lake-level increases.

2. There are a number of sites within the increased pool level to 478.0 feet that have not been evaluated for eligibility. If they were determined eligible for the National Register, then these too would suffer adverse impacts due to raising the pool level at the lake.

3. The actual shoreline affected by the increase has not been comprehensively surveyed for archaeological resources. Thus, unrecorded sites could be disturbed by this flood pool change.

Twenty-one people attended the public workshop. Issues of concern to the public included cultural resources, natural resources (wildlife and vegetation), and transportation.

Additional IICEP letters were sent out to federal, state, and local agencies; Native American Tribes; and congressional representatives in July 2001, when the environmental analysis resumed for this Supplemental FES. The letters announced the preparation of a supplemental environmental statement and asked for comments or questions about the project. Responses were received from the Chickasaw Nation, the Natural Resources Conservation Service (NRCS), the USFWS, the Poteau Valley Improvement Authority (PVIA), Oklahoma State Representative Kenneth Corn, and Oklahoma State Senator Larry Dickerson. The PVIA, Representative Corn, and Senator Dickerson favored the pool at 478.0 feet in order to meet future water supplies for the area. The NRCS was concerned about the environmental effects to wetlands and to fish and wildlife habit from lowering the pool to 471.6 feet. The USFWS identified two federally listed species with the potential to occur at Wister Lake, the American burying beetle and the bald eagle. The Chickasaw Nation did not know of any culturally sensitive or sacred sites in the area. These comments and others derived from scoping were used in preparing this Supplemental FES.